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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,170	01/02/2007	Marcello Puggioni	154546/0341-073	5190
86661	7590	12/30/2010		
Potomac Patent Group PLLC P.O. Box 270 Fredericksburg, VA 22404				
EXAMINER				
WHITE, DWAYNE J				
ART UNIT		PAPER NUMBER		
3745				
NOTIFICATION DATE		DELIVERY MODE		
12/30/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

**Application No.**

10/572,170

**Applicant(s)**

PUGGIONI ET AL.

**Examiner**

DWAYNE J. WHITE

**Art Unit**

3745

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-945)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **Response to Arguments**

Applicant's Appeal Brief filed 12 October 2010 has been fully considered. Claim 1-13 are pending. Upon further consideration the Examiner has reopened prosecution With respect to the rejection of claim 1-6 in view Lorenzen, Applicant has argued that since Lorenzen discloses a heating device and therefore cannot maintain a temperature of a seal low in case of high temperatures of the wall and/or compressed gas as recited in claim 1. The Examiner respectfully disagrees. The Examiner first points out that the heat exchanger claimed by Applicant is "configured" to perform the cited function. As there is no recited structure in the claim that is not also disclosed in Lorenzen, the Examiner holds the position that the heating device of Lorenzen is inherently capable of providing a cooling fluid since the structure claim by Applicant is substantially the same. In other words, as presently claim the only difference between Applicant's claimed structure and the device disclosed by Lorenzen is the function the structure is used for and this function does not require any additional structure not disclosed by Lorenzen. The Examiner has maintained the rejection under 35 USC 102(b). New claims 7-13 have been treated below.

### **Claim Rejections - 35 USC § 112**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described

in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, Claim 12 recites the heat exchanger being configured to reduce a temperature of the gas seal from more than 200 degrees Celsius to around 100 degrees Celsius. This range is not explicitly supported by the original specification as filed. The Examiner points out that Applicant has one provide an example high temperature in one part of the specification and then recites another "acceptable temperature" later on page 5. This does not support a temperature change range as the upper limit and the lower limit are never referred to as a function of the heat exchanger device.

### **Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1- 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Lorenzen (5,718,560). Lorenzen discloses a heat exchange device for a gas seal 15/16 comprising: a fluid heat exchanger 12 positioned between the gas seal and the housing wall 11 capable of keeping the temperature of the seal low. The circular exchanger envelops the seal and extends between the seal and a supporting flange of the seal. The heat exchanger comprises an inlet 18b and at least one outlet 18c connected to the coiled path that encompasses the gas seal and is capable of flowing cooling liquid (water) through the exchanger device. Lorenzen further discloses the seal

comprising a gas inlet 40 passing through the center of the exchanger. Lorenzen further discloses an impeller attached to a shaft (both the impeller and the shaft are basically indicated as item number 13) that rotates inside the fluid heat exchanger and a centrifugal compressor including the compressor. With respect to the heat exchanger being configured to reduce a temperature of the gas seal, Examiner holds the position that the heating device of Lorenzen is inherently capable of providing a cooling fluid since the structure claim by Applicant is substantially the same. In other words, as presently claim the only difference between Applicant's claimed structure and the device disclosed by Lorenzen is the function the structure is used for and this function does not require any additional structure not disclosed by Lorenzen. With respect to claim 12, following the same consideration in regards to being capable of cooling, the Examiner holds the position that lower the temperature of the seal to a specific temperature is a function of capable of applying a cooling fluid and therefore, since the heat exchanger of Lorenzen is capable of having a cooling fluid flow through it, it is also capable of cooling a seal to any desired temperature.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lorenzen in view of Drumm (4,872,689). Lorenzen discloses all of the claimed subject matter as set forth in

the above 35 USC 102(b) rejection except for heat exchanger being configured to keep the temperature of the seal low in the case of high temperature of the seal low in the case of high temperatures of the wall and/or compressed gas.

Drumm teaches a heat exchange device for a gas seal comprising: a fluid heat exchanger 12 positioned between the gas seal 22 and the housing wall 44 to keep the temperature of the seal low. The circular exchanger envelops the seal and extends between the seal and a supporting flange of the seal. The heat exchanger comprises an inlet 52 and at least one outlet 54 connected to the coiled path created by ribs 50 for flowing cooling liquid (water) through the exchanger device. Drumm further discloses that the heat exchanger can transfer heat energy into or out of an annular zone to affect the temperature of the sealing members. Thus, Drumm teaches that a heat exchanger can be used to both heat and cool using the same structure. Therefore, since both Lorenzen and Drumm disclose heat exchangers and following the teaching from Drumm that a heat exchanger can be used to both heat and cool, it would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the heat exchanger of Lorenzen, with the teaches of Drumm, by flowing a cooling fluid through the heat exchanger for the purpose of controlling the temperature of the sealing member.

### CONCLUSION

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

#### **Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DWAYNE J. WHITE whose telephone number is (571)272-4825. The examiner can normally be reached on 7:00 am to 3:30 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dwayne J White/  
Examiner, Art Unit 3745

DJW

/Edward K. Look/  
Supervisory Patent Examiner, Art Unit 3745